

## **REMARKS/ARGUMENTS**

### **Claim Amendments**

The Applicant has not amended any claims. Applicant respectfully submits no new matter has been added. Accordingly, Claims 1-25 are pending in the application. Favorable reconsideration of the application is respectfully requested in view of the foregoing amendments and the following remarks.

### **Claim Rejections – 35 U.S.C. § 102(e)**

The Examiner rejected claims 1, 3, 5, 12, 14, 15, 17 and 24 under 35 U.S.C. § 102(e) as being anticipated by Hadi-Salim, *et al.* (US 6,625,118 B1), hereinafter Hadi-Salim. The Applicant respectfully traverses the rejection of these claims.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claims.

The Hadi-Salim reference is cited as disclosing all the elements in the independent claims. Hadi-Salim uses an ICMP Source Quench (ISQ) message with and a Congestion Experienced (CE) bit. A packet is sent to router A and if congestion is severe the packet is discarded. If the congestion is at a lower level, the router sends an ISQ packet back to the IP source, marking the packet by setting a CE bit. Then router A passes the packet with the CE bit set to router B (col. 6, lines 39-49). As stated in the Hadi-Salim Abstract, "...if the packet has been marked by any of the nodes...a packet flow control parameter is generated ...and sent to the source ... to control the flow of packets from the source...". Hadi-Salim is monitoring packets with CE bits to determine the amount of congestion at particular queues in order to adjust the congestion.

The present invention prevents unnecessary congestion notifications (page 4, lines 1-17) that could be useless or even damaging to the overall performance (page 3, lines 35-37); that is, certain packets in a queue may have a special status. Examples of the potentially performance damaging instances include; if a flow is coming to an end

and there are only a few packets left to be sent, a congestion notification would at best be useless and at worst damaging because the sender could likely have to notice the loss through a time out and if an application were limited in providing data such that the actual amount of data being sent is smaller than the sender's flow control would allow. Performance issues related to queues are not only caused by the number of packets in the queue, but performance can be affected by the system sending messages to the sender (sending notifications) indicating that there is congestion in a queue. The present invention controls the sending of the notifications.

The Applicant respectfully directs the Examiner's attention to claim 1:

1. (Previously Presented) A method of controlling a queue buffer arranged to queue data units received over a communication network, comprising:
  - invoking a congestion notification procedure under a predetermined condition, wherein said congestion notification procedure comprises
    - confirming whether one or more queued data units contain a predetermined congestion information,
    - performing a congestion notification with respect to the one or more queued data units if no queued data units contain said predetermined congestion notification prevention information, and
    - preventing a performance of a congestion notification at least with respect to the one or more queued data units containing said predetermined information and belonging to a same flow as said queued data units. (emphasis added)

The Applicant respectfully submits that Hadi-Salim does not disclose every element of claim 1 or the other analogous independent claims. The Hadi-Salim reference (column 5, lines 34-35 and lines 45-58 ) is cited as disclosing the above emphasized limitations. The Applicant respectfully disagrees with the Examiner's interpretation of the referenced portions of Hadi-Salim.

In addition to the above summary of the Applicant's invention, Hadi-Salim is dealing with detection of a CE bit in a packet in order to determine what flow controls to apply to a queue. The present invention is dealing with the notifications to be sent by the queue buffer to the sender to change the load; the present invention either allows the congestion notification or it prevents the notification.

The Applicant respectfully submits that the Hadi-Salim reference does not disclose at least the element of preventing a congestion notification of one or more queued data units containing predetermined information that belong to a same flow as the queued data units. This being the case, the Applicant respectfully requests the allowance of claim 1 and the analogous claims 5, 14, and 17

Claims 3, 12, 15 and 24 depend from claims 1, 5, 14 and 17 respectively and 3, 12, 15, and 24 recite further limitations in combination with the novel elements of claim 1, 5, 14, and 17. Therefore, the allowance of claims 1, 3, 5, 12, 14, 15, 17 and 24 is respectfully requested.

#### **Claim Rejections – 35 U.S.C. § 103 (a)**

The Examiner rejected claim 2 under 35 U.S.C. § 103(a) as being unpatentable over Hadi-Salim, *et al.* (US 6,625,118 B1) in view of Sindhu, *et al.* (US 7,359,321 B1). The Applicant respectfully traverses the rejection of these claims.

As discussed above, the base claim 1, from which claim 2 depends, contains elements which are not found in Hadi-Salim. Furthermore, under MPEP § 2142, "[i]f the examiner does not produce a prima facie case, the applicant is under no obligation to submit evidence of nonobviousness." The Sindhu reference is cited for disclosing dropping and marking a given data unit. It is submitted that the Sindhu reference does not provide at least the claim limitation missing from Hadi-Salim, that of regarding preventing a congestion notification of one or more queued data units containing predetermined information that belong to a same flow as the queued data units. Thus, neither reference contains the noted limitation and the combination of Hadi-Salim and Sindhu does not teach all of the claim elements so, the Office Action does not support a prima facie case of obviousness. The Applicant, therefore, respectfully requests that this rejection be withdrawn.

The Examiner rejected claims 6 and 18 under 35 U.S.C. § 103(a) as being unpatentable over Hadi-Salim, *et al.* (US 6,625,118 B1) in view of Thoo, *et al.* (EP 0,955,749 A1). The Applicant respectfully traverses the rejection of these claims.

As discussed above, the base claims 5 and 17, from which claims 6 and 18 depend, contain elements which are not found in Hadi-Salim. The Thoo reference is cited for disclosing determining whether the congestion notification prevention condition is fulfilled. It is submitted that the Thoo reference does not provide at least the aforementioned missing claim limitation regarding preventing a congestion notification of one or more queued data units containing predetermined information that belong to a same flow as the queued data units. Thus, the combination of Chapman and Thoo does not teach all of the claim elements and the Office Action does not factually support a prima facie case of obviousness. The Applicant, therefore, respectfully requests that this rejection be withdrawn.

Claims 6 and 18 depend from claims 5 and 17 respectively and recite further limitations in combination with the novel elements of claims 5 and 17. Therefore, the allowance of claims 6 and 18 is respectfully requested.

The Examiner rejected claims 7-9 and 19-21 under 35 U.S.C. § 103(a) as being unpatentable over Hadi-Salim, et al. (US 6,625,118 B1) in view of Li, et al. (US 6,741,555 B1). The Applicant respectfully traverses the rejection of these claims.

The Li reference is cited for disclosing an indicator that the flow of data units is coming to an end in the rejection of claims 7 and 19. In claims 8 and 20, Li is cited for disclosing congestion notification prevention comprises an indication that the flow of data units is application limited. In claims 9 and 21, Li is cited as disclosing that one or more data units carry predetermined signaling identifiers. The Applicant respectfully disagrees with the interpretation of the cited portions.

Congestion Notification is discussed in the recited portions. However, as previously noted regarding the Hadi-Salim reference, notification messages are treated differently in Li than in the present application. Li is concerned about improving transmission rate. If packet loss is due to transmission error, ECN-Echo ACK packet is transmitted from the destination node to the source node without delay. This way original sending speed can be recovered quickly. In contrast, the Applicant's invention claims prevention of the sending of notification messages on particular queue situations, which is missing from Li as well as Hadi-Salim. Further, neither reference, considered

individually or in combination disclose at least the element of preventing a congestion notification of one or more queued data units containing predetermined information that belong to a same flow as the queued data units. This being the case, the Applicant respectfully requests the allowance of claims 7-9 and 19-21.

Claims 10, 11, 22 and 23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hadi-Salim et al in view of Brothers, et al. (US Patent No. 6,822,955). The Applicant respectfully traverses the rejection of these claims.

The Brothers reference is cited for disclosing that the data unit sender is part of a proxy server and that the proxy server is connected to a mobile communications network. The base claims 5 and 17, from which claims 10, 11, 22 and 23 depend respectively, contain elements which are not found in Hadi-Salim. It is submitted that the Brothers reference does not provide at least the claim limitation missing from the Hadi-Salim reference that of preventing a congestion notification of one or more queued data units containing predetermined information that belong to a same flow as the queued data units. Thus, the combination of Hadi-Salim and Brothers does not teach all of the claim elements and the Office Action does not factually support a prima facie case of obviousness. The Applicant, therefore, respectfully requests that this rejection be withdrawn.

Claims 10, 11, 22 and 23 depend from claims 5 and 17 and recite further limitations in combination with the novel elements of claims 5 and 17. Therefore, the allowance of claims 10, 11, 22 and 23 is respectfully requested.

The Examiner rejected claims 13 and 25 under 35 U.S.C. § 103(a) as being unpatentable over Hadi-Salim, et al. (US 6,625,118 B1) in view of Agrawal, et al. (US 7,006,440 B1). The Applicant respectfully traverses the rejection of these claims.

The Agrawal reference is cited as disclosing a data unit count-down value that counts down the number of data units remaining in the flow. The base claims 5 and 17 from which claims 13 and 25 depend include at least one element which is not found in either Hadi-Salim or the Agrawal reference that of preventing a congestion notification of one or more queued data units containing predetermined information that belong to a

same flow as the queued data units. The Applicant respectfully submits that neither of the references, whether considered individually or in combination, disclose the claim limitation

**CONCLUSION**

In view of the foregoing remarks, the Applicant believes all of the claims currently pending in the Application to be in a condition for allowance. The Applicant, therefore, respectfully requests that the Examiner withdraw all rejections and issue a Notice of Allowance for all pending claims.

The Applicant requests a telephonic interview if the Examiner has any questions or requires any additional information that would further or expedite the prosecution of the Application.

Respectfully submitted,

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